

Green Building Cognitions and Perceptions for Better Environment

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ABSTRACT

Green buildings are marked as economical, resource efficient and environmentally friendly compared to the conventional building. A green building depletes the natural resources to the minimum during its construction and operation. A construction activity generally confers to deterioration of the environment; this is due to the solid waste generated during construction. Production of carbon dioxide by occupants is also considered as a key factor. Due to this problem there is a considerable downturn in adoption of green building technology in construction industry. The main aim of this study is to set forth the factors influencing the adoption of green building. This study investigates the extent of adoption of green building concepts in commercial buildings and the key challenges arising from their adoption with the aim of determining appropriate strategies for implementing them. The study was conducted through survey method and used questionnaires, interviews, observations for data collection. In this paper a study is conducted which determines the concepts and strategies which can help to create awareness among people regarding the worth of green building and to promote green building practice for better environment.

How to cite this paper: Ms. U. Karunya | S. Muralitharan | Dr. S. Senthilkumar "Green Building Cognitions and Perceptions for Better Environment"

Published in
International Journal
of Trend in Scientific
Research and
Development

(ijtsrd), ISSN: 2456-
6470, Volume-4 |

Issue-4, June 2020, pp.470-473, URL:
www.ijtsrd.com/papers/ijtsrd31036.pdf



IJTSRD31036

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1. INTRODUCTION

1.1. GENERAL

Green building practices are commonly defined by the areas of the environment they affect energy, water, site, air quality, and materials. Definitions of green building may range from a building that is "not as bad" as the average building in terms of its impact on the environment or one that is "notably better" than the average building, to one that may even represent a regenerative process where there is actually an improvement and restoration of the site and its surrounding environment. Also green building is defined as one whose construction and lifetime of operation assure the healthiest possible environment while representing the most efficient and least disruptive use of land, water, energy and resources.

The Environmental Protection Agency (EPA) defines green building as the practice of creating structures and using processes that are environmentally responsible and resource efficient throughout a building's life-cycle from siting to design, construction, operation, maintenance, renovation and deconstruction. This practice expands and complements the classical building design concerns of economy, utility, durability, and comfort. It defines green building as the practice of increasing the efficiency with which buildings and their sites use energy, water, and materials, and reducing building impacts on human health and the environment, through better siting, design, construction, operation, maintenance, and removal the complete building life cycle.

2. METHODOLOGY

Although green building is not a new term or new concept to the general public, it is not so easy for people to realize the performance and understand the actual benefit if they has no experience of living in green buildings. Even for people who have experience of living in green buildings, it is uncertain whether the green buildings are able to satisfy their needs.

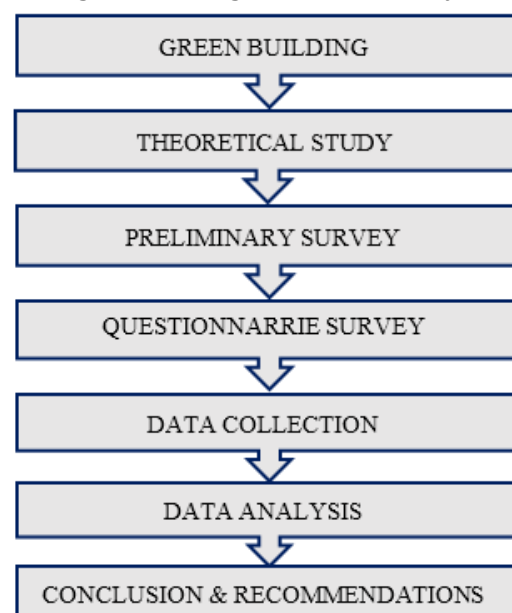


Fig.2.1 Methodology

3. DATA ANALYSIS AND RESULTS

Results of the data analysis are presented in this chapter. As this study was designed to determine to which extent green building product, questionnaire, and interview techniques were used to demonstrate construction' propensity to recommend the camping and to come again.

This chapter:

- Presents characteristics of the sample.
- Analyzes results of the construction survey, which includes loyalty questions.

3.1. Reliability analysis for Companies

The below table 3.1 shows the reliability analysis for the set of questions included in the questionnaire for Company's.

Cronbach's Alpha	N of Items
.881	25

Table 3.1 Reliability Statistics

Technically speaking Cronbach's alpha of 0.881, which is greater than 0.7 indicates that there is a high Consistency and Inter-Correlation between the dataset of 25 items. It is noted that the values above 0.7 are considered acceptable and also values above 0.8 is preferable.

3.2. Descriptive statistics for Companies

Descriptive statistics are brief descriptive coefficients that summarize a given data set, which can be either a representation of the entire or a sample of a population. Descriptive statistics are broken down into measures of central tendency and measures of variability (spread).

	N	Min	Max	Mean	SD	Variance	Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
Customers willingness to GB	25	1.0	4.0	2.2	.1929	.833	-.62	.902
Customers willingness to GB	25	1.0	4.0	2.32	.8021	.643	-.52	.902
Market requirements for GB	25	1.0	4.0	1.96	.7895	.623	-.434	.902
Sustainment of GB in market	25	1.0	4.0	2.00	.9574	.917	-.48	.902
Comparative requirement	25	1.0	3.0	2.48	.7141	.510	-.15	.902
Need for eco-friendly homes	25	1.0	3.0	1.88	.6658	.443	-.56	.902
favor of Green Building Index	25	1.0	3.0	1.92	.7594	.577	-1.2	.902
Significance of eco-friendly homes	25	1.0	4.0	2.12	.8813	.777	-.09	.902
Aesthetic preference of GB	25	1.0	3.0	2.08	.7024	.493	-.82	.902
Impact value of GB	25	1.0	3.0	2.04	.7895	.623	-.14	.902
Sensibility of eco homes	25	1.0	4.0	2.04	.9781	.957	-.78	.902
Uniqueness of buildings	25	1.0	4.0	2.40	1.00	1.00	-.92	.902
Awareness of GB	25	1.0	4.0	2.84	.9866	.973	-.62	.902
Aspects of GB	25	1.0	3.0	2.00	.7071	.500	-.85	.902
Customers perspective on GB	25	1.0	3.0	2.32	.8021	.643	-1.1	.902
Company pattern to environment	25	1.0	4.0	2.32	.9883	.977	-.71	.902
Incorporation of GB	25	1.0	3.0	2.20	.7071	.500	-.85	.902
Adoption of GB concepts	25	1.0	4.0	1.72	.8907	.793	.097	.902
Adoption of GB concepts	25	1.0	4.0	2.28	.9798	.960	-.84	.902
Adoption of GB concepts	25	1.0	4.0	2.00	.9574	.917	-.48	.902
Valid N (list wise)	25			2.16	0.81	0.73	-0.6	0.9

Table 3.2 Descriptive Statistics for Companies

3.3. Reliability analysis for Consumers

The below table 3.1 shows the reliability analysis for the set of questions included in the questionnaire for Consumers.

Cronbach's Alpha	N of Items
.705	40

Table 3.3 Reliability Statistics

Technically speaking Cronbach's alpha of 0.705, which is greater than 0.7 indicates that there is a high Consistency and Inter-Correlation between the dataset of 40 items. It is noted that the values above 0.7 are considered acceptable and values above 0.8 is preferable.

3.4. Descriptive statistics for Consumers

	N	Min	Max	Mean	SD	Variance	Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
Aspects of GB	40	1.0	3.0	1.08	.3499	.122	25.614	.733
Adoption of GB concepts	40	1.0	3.0	1.83	.9842	.969	1.933	.733
Adoption of GB concepts	40	1.0	4.0	1.70	.9392	.882	.628	.733

Energy saving methods Issues	40	1.0	4.0	1.65	.8930	.797	.355	.733
Green building/ eco-friendly home	40	1.0	4.0	1.60	.9554	.913	.544	.733
Green Marketing activities are good at addressing	40	1.0	4.0	1.63	.9524	.907	.638	.733
Green buildings/ houses increases its resale value	40	1.0	4.0	2.17	1.035	1.071	1.643	.733
Green building practice should be encouraged by marketers	40	1.0	4.0	1.75	.9806	.962	1.223	.733
Premium prices for eco-friendly homes	40	1.0	4.0	1.65	.9753	.951	.870	.733
Green Buildings will Strengthen companies Image	40	1.0	3.0	1.50	.8473	.718	.489	.733
Recommendation green buildings to other	40	1.0	4.0	1.43	.8738	.763	1.274	.733
Green Marketing will improve quality of Construction.	40	1.0	4.0	1.53	.9334	.871	.002	.733
Family expect own Eco friendly home	40	1.0	4.0	2.00	1.1547	1.333	1.563	.733
Implementing green marketing state to companies	40	1.0	4.0	1.88	1.0424	1.087	1.738	.733
Support environmental Protection	40	1.0	3.0	1.75	.8987	.808	1.582	.733
Advice my friends should own Eco friendly home	40	1.0	3.0	1.63	.8969	.804	1.242	.733
Make more socially Attractive	40	1.0	4.0	1.40	.8102	.656	2.283	.733
likely to buy green buildings	40	1.0	3.0	1.43	.8130	.661	.202	.733
Intended to buy green residential buildings	40	1.0	3.0	1.48	.8469	.717	.323	.733
Invest in green buildings	40	1.0	3.0	1.68	.9443	.892	1.535	.733
Valid N (list wise)	40			1.639	0.906	0.844	2.284	0.733

Table 3.4 Descriptive Statistics

4. Discussion

The Questionnaire aspect of the current study aimed cover the underlying feelings, experiences, likes and dislikes which 'green' buildings hold for each individuals and the ways in which they cope with the changes that they are exposed to.

Furthermore, many participants emphasized that to truly see the effects of going green, there needs to be a collaborative effort among all parties within the community. It was also stated that the moral reasoning behind implementing green was vital. Prior research has established that 'green' building practices are predominantly implemented to reduce negative environmental impacts and improve sustainability.

It is emphasized that the moral reasoning should be in line with improved benefits for society, and the employees, rather than just being profit orientated. Furthermore in the analytical part the result obtained were satisfying to some extent.

Through the Descriptive statistical analysis pattern which has been carried out in SPSS software it was found that the results were satisfying and optimum. It is also noted that there was utmost probability of positive response from the respondents. The variance and Standard deviations and in the acceptable and positive range. The variance was also found to be within the acceptance range except for one or two.

5. CONCLUSION

This study investigated the adoption of green buildings and the pros and cons involved in adoption of green buildings in our ambience. The main aim of this study is to know in depth the concepts and factors hindering the green construction and also to find the possible ways to create an awareness and to notify the benefits of green construction to the society for improvising the betterment of the environment.

This was carried out by compiling various views of individuals as a consumer or in a company regarding their impressions and requirements to green building and the recommendations are formulated. Furthermore, a deeper analysis into this phenomenon was investigated by means of documenting employee's opinions, experiences, Likes and dislikes associated with adoption of green building.

This study helps in knowing the opportunities and obstacles involved in improvising the efficiency of green construction in our locality. The significance of this study stems from being one of the few studies to incorporate a Questionnaire aspect into the analysis of 'green' buildings, particularly within the Indian context. This allowed for a more clear description of the results that were found by providing important information as to why the questionnaire results were surprising, as well as documenting vital information that can be used to understand the dynamics within the realm of green.

From this study it is found that there is tolerable positive prospect prevailing among the construction industry regarding the adoption of green buildings, even though impressions of each individual differs prominent ways of adopting concepts would help in making up of green buildings. It is also found that there is a range of awareness among everyone concerning with green constructions. Based on the requirements and opinions of individuals the proposition of green building concepts and perceptions are contrived.

6. RECOMMENDATIONS:

From this study various factors affecting adoption of green building in our surroundings is found. It is noted that the environment will effectively gain its betterment through development of green buildings. There are various integral factors playing major role in adoption of green construction, they are social, economic, cultural and technological factors. Based on these the green concepts should be maintained for better efficiency.

Concepts of green building:

These are basic to be followed for green construction:

- A. Desirable use of power or energy
- B. Water conservation
- C. Reuse and effective management of waste water
- D. Efficient building system planning

Parameters to be followed for adoption of green buildings:

- Planning building with accordance to proper orientation and landscape and prioritize on natural light.
- Optimum use of cement content by increasing the addition of pozzolanic materials.
- Recycle the water through sewage treatment and use it for bathroom and kitchen.
- Organic gas which are proceed in large quantity can which can be treated and reused as fuel or cooking gas.

From this study it is found that the awareness level among the professionals and the community were found indented their attitude and perceptions of green construction is positive. It is found that there is need to increase the awareness among the participants of the construction industry and also the communities. This can be improved through

- Training for green building practices should be introduced in institutions.
- The artisans are therefore in need of improved education and this should be by means of practical demonstrations.
- Giving proper knowledge to the workers getting to involve in green construction.
- Improvising the cost benefits of green buildings such as giving special allowance or subsidies to those who involve in green construction.
- Lectures, workshops, campaigns should be organized to improve the knowledge of green building.

Thus form this study it is recognized that adoption of green build would definitely improve the efficiency or standard of living of people among the society. This endorsement towards green building can also be beneficial through emergence of poverty alleviation which can be efficiently achieved by energy conservation and creation of opportunities to employment.

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